Abstract

This paper presents an efficient approach for moving objects detection and shadow removal from color videos obtained using stationary camera. A background subtraction technique based on modified adaptive GMM has been proposed for detecting moving objects. Speed-up techniques have also been applied to enhance the computational efficiency of the algorithm. Then, a robust algorithm for shadow removal is used to remove cast shadows and ghosts. Foreground is reconstructed using graph cut based cleaning and non-recursive blob finding. Comparative experimental results demonstrate that proposed approach performs better in comparison to other state-of-the-art algorithms.
An Efficient Hierarchical Approach for Background Subtraction and Shadow Removal using Adaptive GMM

- Stephen J. McKenna, Sumer Jabri, Zoran Duric, Azriel Rosenfeld, Harry Wechsler, Tracking Groups of People, Computer Vision and Image Understanding, Volume 80, Issue 1, October 2000, Pages 42-56.

Index Terms

Computer Science

Artificial Intelligence
Keywords
Moving Object Detection; Background Subtraction; GMM; Shadow Removal; Color Discrimination; Graph Cut.